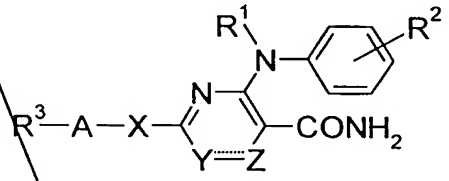
Claims

1. A heterocyclecarboxamide derivative represented by the general formula (I) or a salt thereof.



(I)

[wherein the symbols in the formula have the following meanings.

A: a lower alkylene which may have substituent(s), an arylene which may have substituent(s), a heteroarylene which may have substituent(s), or a cycloalkylene which may have substituent(s);

X: NR^4, $CONR^4$, NR^4CO, O, or S;

a dotted line between Y and Z: presence (Y=Z) or absence (Y-Z) of a bond;

Y-Z: $N(R^5)$-C(O), C(O)-$N(R^5)$, $N(R^5)$-$N(R^5)$, or C(O)-C(O);

Y=Z: N=$C(R^6)$, $C(R^7)$=N, N=N, or $C(R^7)$=$C(R^7)$;

R^1, R^4: H, a lower alkyl, -CO-lower alkyl, or -SO_2-lower alkyl;

R^2: H, a lower alkyl, a halogen, a lower alkyl substituted by halogen(s), -O-lower alkyl, -S-lower alkyl, -O-aryl, -O-lower alkylene-aryl, -S-lower alkylene-aryl, nitro, or cyano group;

R^3: -CO_2H, -CO_2-lower alkyl, -lower alkylene-CO_2H, -lower alkylene-CO_2-lower alkyl, -CONHOH, -CONHO-lower

alkyl, -lower alkylene-CONHOH, -lower alkylene-CONHO-lower alkyl, $-NH_2$, -(NH_2 in a prodrug form), -lower alkylene-NH_2, or -lower alkylene-(NH_2 in a prodrug form);

R^5: the same or different, H or a lower alkyl group;

R^6: a lower alkyl, -OH, -O-lower alkyl, -O-aryl which may have substituent(s), -O-lower alkylene-aryl which may have substituent(s), $-NR^1$-aryl which may have substituent(s), -CO-lower alkyl, or -aryl group which may have substituent(s);

R^7: the same or different, H or the same group as R^6]

2. The compound or a salt thereof according to claim 1, wherein X is NR^4 and A is a lower alkylene or cycloalkylene.

3. The compound or a salt thereof according to claim 2, wherein Y=Z is $N=C(R^6)$, $C(R^7)=N$, or $C(R^7)=C(R^7)$.

4. The compound or a salt thereof according to claim 1, wherein the compound is selected from 6-(2-aminoethylamino)-2-(3-ethylanilino)pyridine-3-carboxamide, 6-(2-aminoethylamino)-2-(3-trifluoromethylanilino)pyridine-3-carboxamide, 2-(2-aminoethylamino)-4-hydroxy-6-(3-methylanilino)pyrimidine-5-carboxamide, 6-(cis-2-aminocyclohexylamino)-2-(3-methylanilino)pyridine-3-carboxamide, 6-(cis-2-aminocyclohexylamino)-2-(3,5-dimethylanilino)pyridine-3-carboxamide, 5-(cis-2-aminocyclohexylamino)-3-(3-methylanilino)pyrazine-2-carboxamide, 5-(cis-2-aminocyclohexylamino)-3-(3-methoxyanilino)pyrazine-2-carboxamide, 5-(cis-2-

aminocyclohexylamino)-3-(3-phenoxyanilino)pyrazine-2-carboxamide, 5-(cis-2-aminocyclohexylamino)-3-(4-methylsulfanylanilino)pyrazine-2-carboxamide, 5-(cis-2-aminocyclohexylamino)-3-(3,5-dimethoxyanilino)pyrazine-2-carboxamide, 2-(cis-2-aminocyclohexylamino)-4-hydroxy-6-(3-methylanilino)pyrimidine-5-carboxamide, 2-(cis-2-aminocyclohexylamino)-4-(3-bromoanilino)-6-hydroxypyrimidine-5-carboxamide, and 2-(cis-2-aminocyclohexylamino)-4-(2-chlorophenoxy)-6-(3-methylanilino)pyrimidine-5-carboxamide.

5. A pharmaceutical composition which comprises the compound according to claim 1 or a salt thereof and a pharmaceutically acceptable carrier.

6. A pharmaceutical composition which comprises the compound according to claim 1 which is a Syk inhibitor or a salt thereof and a pharmaceutically acceptable carrier.

Abstract

A nitrogen-containing six-membered heterocyclic compound having substituents -X-A-R^3, -N(R^1)-(Ph substituted by R^2), and -$CONH_2$, or a salt thereof.

(The symbols have the following meanings.

A: a lower alkylene which may have substituent(s), an arylene which may have substituent(s), a heteroarylene which may have substituent(s), or a cycloalkylene which may have substituent(s);

X: NR^4, $CONR^4$, NR^4CO, O, or S;

R^1, R^4: H, a lower alkyl, -CO-lower alkyl, or -SO_2-lower alkyl;

R^2: H, a lower alkyl, a halogen, a lower alkyl substituted by halogen(s), -O-lower alkyl, -S-lower alkyl, -O-aryl, -O-lower alkylene-aryl, -S-lower alkylene-aryl, nitro, or cyano group;

R^3: -CO_2H, -CO_2-lower alkyl, -lower alkylene-CO_2H, -lower alylene-CO_2-lower alkyl, -CONHOH, -CONHO-lower alkyl, -lower alkylene-CONHOH, -lower alkylene-CONHO-lower alkyl, -NH_2, -(NH_2 in a prodrug form), -lower alkylene-NH_2, or -lower alkylene-(NH_2 in a prodrug form))